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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,371

Applicant(s)

QIAN ET AL.

Examiner

Christopher RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants have amended the claims to specify that the charge control adjuvant is an acid or a base that is "present in an amount effective to reduce the bulk conductivity of the liquid toner composition as toner is depleted during printing operations." Initially it is unclear what "toner" refers to in this limitation. Is this the electrophotographic toner composition having at least components a), b), and c) as recited in claim 1 or does this refer to only the negatively charged toner particles (i.e., component b)). It is unclear that is being consumed in the printing operation.

It is further unclear what the printing operation is in the claims. The instant claims are directed to a toner composition having a plurality of components. The amount of the charge control agent (i.e., component c)) is defined by the manner in which the toner composition is used. This use is a latter event. In order for the claims to particularly point out and distinctly claim the invention the claims must specify the printing operation conducted so that the artisan can test his proposed toner composition to see if the amount of c) present reduces the bulk conductivity of that composition during use. The art is replete with a variety of liquid development processes, such as electrophoretic development, immersion liquid development of

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a imagewise charged receiver into a bath of liquid toner, contact development of a photoreceptor with liquid toner followed by drying of the liquid carrier and transfer of the toner particles to a receiver, contact development of a photoreceptor with liquid toner followed by recovery of the liquid carrier solution and return of this solution to the liquid toner, and many other methods. These different methods would be expected to give different concentrations of the components in the toner during a printing operation. For example, in some methods the amount of liquid carrier and materials in solution would be depleted during use (e.g., the drying method above) while in other methods the amount of liquid carrier and materials in solution would not decrease as quickly because the liquid solution is returned to a reservoir of the liquid or the receiver is passed through the bath. These different methods would directly affect the concentration of components and affect the amount of base or acid that would give reduced bulk conductivity. Because the claims do not specify the printing operation, the artisan would not be reasonably apprised of the amount of the charge control agent present in the toner.

The claims as presented are indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, 7, 10-16, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosel in US Patent 3,753,760 in view of *Handbook of Imaging Materials* to Diamond & Weiss (eds.) New York: Marcel-Dekker, Inc. (11/2001) pp. 242-247, 254-255.

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This rejection was presented in the last Office action and the reasons for rejection are incorporated here. Applicants traverse this rejection based on the new limitation to the claims that specifies the amount of the charge control additive, which is an acid or a base, is "present in an amount effective to reduce the bulk conductivity of the liquid toner composition as toner is depleted during printing operations". This benefit is discussed in the specification on page 9 as noted in the recent response, and the response makes reference to the specification examples starting on page 39.

In the response, Applicants state, "Kosel does not teach or suggest the use of an additional element in the toner composition that is an acid or base, present in an amount to effective to reduce the bulk conductivity of the liquid toner composition as toner is depleted during printing operations." Applicants also state, "Diamond and Weiss is a handbook that teaches the use of conventional materials for liquid toners, including the use of charge directors. This reference thus clearly describes only the use of a charge director to impart a charge on the particle, and does not teach or suggest the use of an element in addition to a charge director that is a charge control adjuvant that is an acid or a base present in an amount effective to reduce the bulk conductivity of the liquid toner composition as toner is depleted during printing operations."

The Examiner has carefully considered applicants' remarks, but the claims are indefinite for the reasons given above in the § 112, 2nd paragraph, rejection. Because the artisan is not reasonably apprised of the printing operation conducted, the artisan cannot know the amounts of the charge control additive of the claims.

Additionally, the supporting text discloses the amount of the acid added to a liquid toner can be modified to give desired electrical characteristics in a positively charged liquid toner (see Diamond, pp. 254-257, particularly noting the Figures). The artisan is taught by the text that the

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amount of the added acid is a result-effecting variable, particularly to control mobility and conductivity. The artisan would have ample motivation to add an acid to the liquid toner composition and to optimize the amount of the acid to provide mobility control and conductivity as desired. Given these disclosures and the fact that it is unclear what actual amounts of the acid are present in the claims, the art is seen as reasonably suggesting the claims as now presented.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kosel in US Patent 3,753,760 in view of *Handbook of Imaging Materials* to Diamond & Weiss (eds.) New York: Marcel-Dekker, Inc. (11/2001) pp. 242-247, 254-255 as applied to claims 1, 6, 7, 10-16, and 18-21 above, and further in view of Roteman *et al.* in US Patent 3,411,936.

This rejection was presented in the last Office action and that discussion is incorporated here. Applicants acknowledge that tin and zirconium carboxylates are known in the toner art for their use as charge directors. The subject claim recites these compounds in their use as charge directors. Applicants take the position that, "Because the Roteman patent does not bridge the gap noted above in the Kosel and Diamond and Weiss references relative to the charge control adjuvant, it is respectfully submitted that claim 17 is also allowable." It is apparent that applicants traverse this rejection for the same reasons as given above for the base rejection. The rejection will, therefore, be maintained for the same reasons as given above for the combination of Kosel and the Diamond and Weiss text.

Claims 1, 6, 7-16, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kosel in US Patent 3,753,760 in view of *Handbook of Imaging Materials* to Diamond &

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Weiss (eds.) New York: Marcel-Dekker, Inc. (11/2001) pp. 242-247, 254-255 as applied to claims 1, 6, 7, 10-16, and 18-21 above, and further in view of Tamai *et al.* in US Patent 4,062,789.

This rejection was presented in the last Office action and that discussion is incorporated here. This rejection also is extended to include all the claims from the base rejection based on the amendment of the material amount of the added acid. Further discussion of the teachings of the amount of the added acid has been provided below.

In their traversal applicants take the position that Tamai discloses that an organic acid can be incorporated to preserve stability of certain charge controlling agents in the reference's carrier liquid. These acids appear to act as a solubilizer for the charge controlling agent. Further, the acids strengthen the positive charge of the toner particles. According to applicants the Tamai patent does not teach or suggest the use of a distinctly separate charge control adjuvant that is an acid or a base present in an amount effective to reduce the bulk conductivity of the liquid toner composition as toner is depleted during printing operations.

The reasons for traversal appear to center on the position that the organic acid, such as lauric acid, is not added for the purposes specified in the instant claims. Specifically, the acid is not added in an amount effective to reduce the bulk conductivity of the liquid toner composition. Applicants are reminded that the new limitation is directed to the amount of the acid in the toner composition. Because the amount of the added acid is dependent on an indefinite process step, the amount of the added acid is itself indefinite. Further, the rejection need not recognize the benefit or purpose specific by applicant in order for a proper section 103 rejection to be made. As discussed in MPEP 2144, "The reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same

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advantage or result discovered by applicant." The art suggests up to about 20 parts by weight of an organic acid per 1000 parts by weight of said carrier liquid (patent claim 2). Applicants have not stated that these amounts are outside the scope of the instant claims.

Additionally, the claims are indefinite for the reasons given above in the § 112, 2nd paragraph, rejection. Because the artisan is not reasonably apprised of the printing operation conducted, the artisan cannot know the amounts of the charge control additive of the claims.

The rejection is still seen as proper and is maintained.

Claims 1, 6, 7, and 10-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Qian *et al.* in US Patent Application Publication 2004/0091807 or Qian *et al.* in US Patent Application Publication 2004/0091808 or Qian *et al.* in US Patent Application Publication 2004/0091809 in view of *Handbook of Imaging Materials* to Diamond & Weiss (eds.) New York: Marcel-Dekker, Inc. (11/2001) pp. 242-247, 254-257.

This rejection was also presented in the last Office action and that discussion is incorporated here. Applicants traverse the rejection for the same reasons given above. Specifically, applicants stress that the art does not disclose the amounts of the acid or base charge control agent as now specified. The Examiner has carefully considered applicants' remarks, but the claims are indefinite for the same reason as given above in the § 112, 2nd paragraph, rejection. Because the artisan is not reasonably apprised of the printing operation conducted, the artisan cannot know the amounts of the charge control additive of the claims.

Additionally, the supporting text discloses the amount of the acid added to a liquid toner can be modified to give desired electrical characteristics in a toner (see Diamond, pp. 254-257, particularly noting the Figures). The artisan is taught by the text that the amount of the added acid is a result-affecting variable, particularly to control mobility and conductivity. Given these

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disclosures and the lack of definiteness in the claims, the art is seen as reasonably suggesting the claims as now presented.

Terminal Disclaimer

The terminal disclaimer filed on 25 August 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US application number 10/676381 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
13 October 2005



CHRISTOPHER RODEE
PRIMARY EXAMINER